

IN THE CLAIMS:

20. (AMENDED) A catheter for intravascular corporeal cooling comprising:

B<sup>3</sup> an elongated tubular member having proximal and distal sections, an outer surface, and at least one lumen extending therethrough, and

annular insulation having proximal and distal ends and arranged concentrically around the outer surface of the elongated external tubular member,

wherein at least one lumen in the tubular member can provide cooled blood in the direction of the distal section of the elongated tubular member and fluid flowing through one or more lumens within the tubular member is insulated from fluid or tissue external to the annular insulation.

21. (AMENDED) The catheter of Claim 20, wherein the annular insulation extends over substantially the entire outer surface of the elongated tubular member.

B<sup>4</sup> 30. (AMENDED) The catheter of Claim 20 which is adapted to be useful for brain cooling.